

U.S. Serial No. 10/509,602

Date: October 20, 2006

Date of Office Action: April 24, 2006

7

RECEIVED
CENTRAL FAX CENTER

OCT 20 2006

REMARKS

Claims 1 and 9 are amended. Claim 36 is cancelled. Claims 1-35 remain in the case.

Claims 1-8, 13, 19, 28, and 31-35 are rejected under 35 U.S.C. 103(a) as being unpatentable over Thompson in view of Schelde (EP 0 799 764 A1).

Amended claim 1 has been amended to make it clear that the hull of the marine craft recited contributes to the planing effect. The amendment is supported by the drawings which show a craft which clearly has a planing hull.

It is submitted that even without the amendment it would not be obvious to combine the teachings Thompson and Schelde to arrive at the subject matter of claim 1. Nevertheless, the amendment has been introduced in the interest of efficient prosecution to further distinguish the claimed marine craft from the vessel shown and described in Thompson.

US 6,116,180 (Thompson)

The vessel of Thompson differs materially from the claimed marine craft in several ways:

- (1) Thompson does not disclose means *between the hull and the passenger area* for absorbing impact energy. The impact protection means of Thompson comprises "a large, wrap-around deformable fender 110" (column 6, line 37), which extends *externally* to the hull member 10, and a "deformable prow 100", which is *detachable* (column 6, line 24) and therefore also external to the hull 10. The means for absorbing impact energy cannot, therefore, be construed reasonably, to be *between the hull and the passenger area*.
- (2) While the auxiliary members 12, 14 extend along each side of the hull 10 provide hydro-dynamic lift, the vessel itself is *not* a planing vessel, as a skilled person would understand it. Rather, the vessel disclosed by Thompson is a semi-displacement vessel having a hull 10 which is deliberately designed to be *incapable* of planing. Column 3, lines 15 to 18, for example, make it clear that the hull member has "*no flat surfaces below the water line, such as could support the boat in a planing mode*". Furthermore, claim 1 of Thompson recites:

U.S. Serial No. 10/509,602

8

Date: October 20, 2006

Date of Office Action: April 24, 2006

"A boat comprising a central hull member, such a member having no flat surfaces below the water line, such as could support the boat in a planing mode,..."

Even at *full speeds* the vessel of Thompson is described as operating in a *semi-displacement mode* in which the volume of water displaced would almost always be greater and probably greater than two thirds the static volume displacement. Column 13, lines 53 to 61, for example, state:

"even with the lift provided by the auxiliary members, the boat still operates in a semi-displacement mode. At full speed, the volume of water displaced would rarely be less than, say, one half or two thirds of the static volume of water displaced."

Furthermore, the introduction to Thompson discusses many disadvantages of planing vessels (column 1, lines 23-43) and displacement vessels (44 to 57), before going on to expound the advantages of "semi-displacement" vessels (column 1, lines 58 to column 2, line 4).

Thompson makes a clear distinction between semi-displacement vessels as alternative distinct types of craft. In fact, in column 2, lines 5 to 9, Thompson makes it clear that while boats of the semi-displacement type may exhibit some "planing" behaviour *"they would not be described as operating in a planing mode"*. It is clear, therefore, that Thompson does not disclose a planing vessel as would be understood by those skilled in the art.

(3) In order to make the distinction between the vessel of Thompson and the craft recited in claim 1, claim 1 has been further amended to require that the craft has "a planing hull". It is clear from the above discussion that Thompson, rather than having a planing hull, has a hull *specifically designed to avoid planing*.

Furthermore, Thompson expressly teaches the disadvantages of planing vessels of the type recited in claim 1 of the application. Therefore, it would not be obvious for a skilled person reading Thompson to modify the vessel disclosed to include a planing hull, because to do so would go against the teaching of the whole application.

U.S. Serial No. 10/509,602
Date: October 20, 2006
Date of Office Action: April 24, 2006

(4) As acknowledged by the Examiner, Thompson also does not disclose a permanently deformable impact protection means. The Examiner argued that it would be obvious to combine the teaching of Thompson with that of Schelde to arrive at a planing vessel, as recited in claim 1 of the application. However, it is submitted that such a combination would not be obvious for the reasoning set out below.

Thompson in combination with EP 0799764 (Schelde)

As discussed in *supra*, the impact protection means disclosed in Schelde is designed for large, heavy duty displacement vessels and more particularly, for large, ocean-going oil tankers or the like. The Examiner has not rejected nor raised arguments against this interpretation and therefore, it is assumed that he accepts it.

As set out in the previous arguments, the impact protection system of Schelde would be far too heavy and bulky for use in a planing vessel. It is submitted, therefore, that the system of Schelde would be considered by the skilled person to be unsuitable for the vessel disclosed in Thompson, therefore it would not be obvious to introduce it to Thompson's semi-displacement craft.

Specifically, incorporation of the impact protection system of Schelde into the vessel of Thompson, would result in significant additional below waterline weight, which would adversely affect the hydrodynamic properties of the vessel. In particular, the addition of below waterline weight would adversely affect the ability of the auxiliary member 12, 14 to exert hydro-dynamic lift, thereby inhibiting the ability of the vessel to achieve the technical benefits which Thompson's invention aims to solve.

The incorporation of the impact protection system of Schelde into the vessel of Thompson would also require the modification of the hull to a bulky double hull structure, which would adversely affect the length to beam ratio ("slenderness ratio") of the vessel. Thompson teaches that the length to beam ratio is a critical parameter for achieving the benefits to which the patent is directed. Incorporation of anything into the vessel of Thompson that would adversely affect this parameter, therefore, would not be obvious.

Even without the significant problems associated with incorporating the impact protection system of Schelde into the vessel of Thompson, it would not be obvious to combine the teaching of the two documents, because they relate to completely different

U.S. Serial No. 10/509,602

10

Date: October 20, 2006

Date of Office Action: April 24, 2006

technical fields. Schelde is directed towards impact protection systems for heavy duty displacement vessels, while Thompson is directed to high speed semi-displacement vessels.

Furthermore the impact protection means (prow 100 and "fender" 110) of Thompson are light-weight impact protection devices, for minor impacts only, similar to the provision of road tires around a trawler, tug boat or the like. This is significantly different to the heavy duty impact protection system of Schelde, and as such they are not interchangeable. Therefore, it would not be obvious to replace Thompson's impact protection means with Schelde's double hull. The removal of the light weight prow, for example, and its replacement with a double hull based heavy duty system would be considered completely unfeasible.

In view of the above comments and observations, it is believed that the invention claimed in the application would not be obvious to the skilled person reading Thompson either on its own or in combination with Schelde. Therefore claim 1 is believed to be allowable.

Claims 29 and 30 are rejected under 35 U.S.C. 103(a) as being unpatentable over Thompson in view of Schelde, as applied to claim 4 above, and further in view of Goldman. Claims 29 and 30 are ultimately dependent on allowable claim 1 and are therefore also allowable.

The remaining rejected claims all depend either directly or indirectly from independent claim 1. Therefore, it is submitted that they are novel and non-obvious by reference.

The rejection of claims 28 is traversed since the previous amendment amended claim 28 to be dependent on allowable claim 20.

Claims 9-11 are objected to as being dependent upon a rejected base claim, but would be allowable if rewritten in independent form including all of the limitations of the base claim and any intervening claims. Claim 9 has now been amended to be independent including all of the limitations of the base claim and the intervening claims.

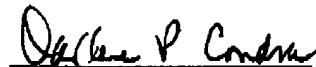
The allowance of claims 12, 14-18, and 20-27 is noted with appreciation.

U.S. Serial No. 10/509,602
Date: October 20, 2006
Date of Office Action: April 24, 2006

11

If the Examiner feels that prosecution of the present application can be expedited by way of an Examiner's amendment, the Examiner is invited to contact the Applicant's attorney at the telephone number listed below.

Respectfully submitted,



Darlene P. Condra
Attorney for Applicant
Registration No. 37,113
(248) 649-3333

YOUNGBASILE
3001 W. Big Beaver Rd.
Suite 624
Troy, Michigan 48084-3107
DPC/caw